

App. Serial No. 10/527,775
Docket No.: NL020886

In the Drawings:

Attached please find two Replacement Drawing Sheets labeled replacement sheet 2/3 and replacement sheet 3/3, and two corresponding Annotated Sheets in which one or more reference numbers are corrected or indicated thereupon in accordance with the specification. No new matter is introduced by way of the replacement drawings.

Entry of these Drawing Sheets is respectfully requested.

Attachments: Two Drawing Sheets

App. Serial No. 10/527,775
Docket No.: NI.020886

Remarks

Claims 1-20 are currently pending in the patent application. For the reasons and arguments set forth below, Applicant respectfully submits that the claimed invention is allowable over the cited references.

The non-final Office Action dated October 10, 2006 indicated the following rejections: claim 9 stands rejected under 35 U.S.C. § 112(2) with regard to antecedent basis; claims 1-5, 8, 12-16 and 20 stand rejected under 35 U.S.C. § 102(b) over Chen (U.S. 6,980,780); claim 6 stands rejected under 35 U.S.C. § 103(a) over Chen in view of Ichikawa (U.S. 6,532,357); claims 7 and 17 stand rejected under 35 U.S.C. § 103(a) over Chen in view of Tsuji (U.S. 6,725,027); claims 9-10 and 19 stand rejected under 35 U.S.C. § 103(a) over Chen in view of Nishihori (U.S. 6,134,424—patent number corrected by Applicant); and claim 11 stands rejected under 35 U.S.C. § 103(a) over Chen in view of Kurokawa (U.S. 6,678,507).

Applicant has attached two replacement drawing sheets in which minor amendments have been made to Figures 4, 5 and 6 as indicated on page 2 of this response.

Applicant notes that minor amendments have been made to claims 5, 15 and 16. These amendments are not being made to overcome any issues relating to patentability raised by the rejections in the Office Action; the rejections fail for the reasons indicated below.

Applicant respectfully traverses the Section 112(2) rejection of claim 9 because the failure to provide explicit antecedent basis for terms does not always render a claim indefinite. If the scope of a claim would be reasonably ascertainable by those skilled in the art, then the claim is not indefinite. *Ex parte Porter*, 25 USPQ2d 1144, 1145 (Bd. Pat. App. & Inter. 1992) *see* M.P.E.P. § 2173.05(e). Notwithstanding, in an effort to facilitate prosecution, Applicant has amended claim 9 to provide explicit antecedent basis for the term “base-band controller” as indicated on page 3 of this paper. Therefore, Applicant requests that the Section 112(2) rejection of claim 9 be withdrawn.

Applicant respectfully traverses the Section 102(b) rejections of claims 1-5, 8, 12-16 and 20 because the portions of the Chen reference cited by the Office Action fail to correspond to all of the claimed limitations. Regarding claims 1, 4, 12 and 15, the cited portions of the Chen reference fail to correspond to claimed limitations directed to

App. Serial No. 10/527,775
Docket No.: NI.020886

preserving the linearity of a RF power amplifier. In contrast, Applicant submits that the cited portions of the Chen reference teach a method for disabling an amplifier, and thus, operating the amplifier in a nonlinear mode. More specifically, the cited portions teach that when the output power of the driver stage amplifier 21 is lower than a predetermined threshold value, the radio frequency signal RF_In is attenuated in response to the attenuation signal V_E such that it is not strong enough to drive the drive stage amplifier 21 (*see, e.g.*, col. 3, lines 25-38). "Thus, each stage amplifier of the power controller 10 does not output any power, thereby saving the energy." *See, e.g.*, col. 3, lines 38-40. Applicant submits that Chen's teaching of attenuating the input signal of driver stage amplifier 21 to save energy does not correspond to preserving the linearity of the RF amplifier as in the claimed invention.

With particular regard to independent claims 4 and 15, Applicant submits that the Office Action has failed to show correspondence to the claimed limitations directed to adapting the matching circuit. Applicant submits that the cited portions of the Chen reference (Col. 3, lines 7-17) fail to discuss an adaptation of the matching circuits 32, 33 and 34. Instead, the cited portions of the Chen appear to be directed to modifying the bias voltage for the amplifier stages 21, 22 and 23. Accordingly, Applicant submits that the Office Action has failed to show correspondence for each of the claimed limitations.

Notwithstanding and in an effort to facilitate prosecution, Applicant has amended claims 1 and 12 to clarify that, for the RF power unit, the drive level is reduced or the supply voltage is increased in response to the control signal in order to operate the output unit below its saturation level, thereby, preserving the linearity of the RF power amplifier. As discussed above, the cited portions of the Chen reference teach that comparator 55 compares the output power of driver stage amplifier 21 to a threshold voltage for the purpose of attenuating (reducing) the radio frequency signal RF_In, effectively disabling the driver stage amplifier 21 (*see, e.g.*, col. 3, lines 25-41). Applicant submits that effectively disabling the driver to save power does not correspond to the limitations directed to reducing the drive level (or increasing the supply voltage) to preserve the linearity of the amplifier. Thus, the cited portions of the Chen reference do not teach the limitations of the claimed invention.

App. Serial No. 10/527,775
Docket No.: NL020886

In view of the above discussion, the portions of the Chen reference cited by the Office Action fail to correspond to the claimed invention. Accordingly, the rejections of independent claims 1, 4, 12 and 15, as well as the rejections of claims 2-3, 5, 8, 13-14, 16 and 20 that depend from claims 1, 4, 12 or 15, are improper, and Applicant requests that they be withdrawn. Notwithstanding the impropriety of the rejections of all of the dependent claims as related to the independent claims above, the limitations of certain dependent claims are addressed further below.

For example, the cited portions of the Chen reference fail to correspond to the limitations of claims 3 and 14 directed to the control signal being combined with the gain control signal of the preamplifier. The Office Action cites to VAPC1 as corresponding to the control signal of the claimed invention; however, claims 3 and 14 depend from claims 1 and 12 respectively. The Office Action has not shown VAPC1 corresponds to the control signal of claims 1 and 12. Instead, the Office Action has asserted that the output of comparator 55, through attenuation enable circuit 56, corresponds to the claimed control signal. Applicant submits that the Office Action's assertion that the VAPC1 signal corresponds to the claimed control signal is inconsistent with the Office Action's assertion relative to claims 1 and 12. Moreover, the cited portions of the Chen reference do not teach that VAPC1 is produced by comparing an output voltage to a threshold voltage (*see, e.g.*, col. 2, line 54 to col. 3, line 1). Therefore, Applicant submits that VAPC1 does not correspond to the control signal of the claimed invention. Accordingly, Applicant requests that the Section 102(b) rejections of claims 3 and 14 be withdrawn.

In another example, the cited portions of the Chen reference fail to correspond to the limitations of claims 5 and 16 directed to adapting the output matching circuit by changing either the magnitude or the phase of the impedance transform function. Applicant is unable to find any mention in the cited portions of the Chen reference that correspond to adapting either the magnitude or the phase of an impedance transform function (*see, e.g.*, col. 2, lines 54-61). It appears that the Office Action is attempting to equate modification of the bias voltage to amplifier stages 21, 22 and 23 to the claimed matching circuit being adapted (or configurable to be adapted) with respect to the magnitude or phase of the impedance transform function. Applicant submits that the modification of an amplifier's bias voltage does not correspond to the claimed limitations directed to adapting

App. Serial No. 10/527,775
Docket No.: NL020886

the magnitude or phase of an impedance transform function relative to a matching circuit. More specifically, Applicant submits that even assuming *arguendo* that the DS1 and DS3 signals change the magnitude of the amplified signal by adapting the amplifier, there is no correspondence to the claimed limitations because there is no matching circuit adapted with respect to the magnitude or phase of impedance transfer function. Thus, Applicant submits that the Office Action's assertion fails to adequately show correspondence to the claimed limitations and requests that the Section 102(b) rejections of claims 5 and 16 be withdrawn.

In a further example, the cited portions of the Chen reference fail to correspond to the limitations of claims 8 and 18 directed to the output voltage of the RF power output unit being compared to the threshold voltage by means of an operational amplifier. The Office Action cites item 52 of Fig. 2 as corresponding to the operational amplifier of the claimed invention. However, the cited portions of the Chen reference refer to comparator 55 of Fig. 2 not item 52 as asserted by the Office Action (*see, e.g.*, col. 3, lines 27-31). Applicant submits that the cited portions of the Chen reference do not teach that item 52 performs any comparison; therefore, item 52 does not correspond to the operational amplifier of the claimed invention. Accordingly, Applicant requests that the Section 102(b) rejections of claims 8 and 18 be withdrawn.

Applicant traverses the Section 103(a) rejections of claims 6-7, 9-11, 17 and 19 because these rejections (all of which are based upon the Chen reference) rely upon the same (improper) rationale as the Section 102(b) rejections discussed above. In this regard, Applicant submits that each of these rejections are improper for the reasons discussed above. Therefore, Applicant requests that the Section 103(a) rejections of these claims be withdrawn.

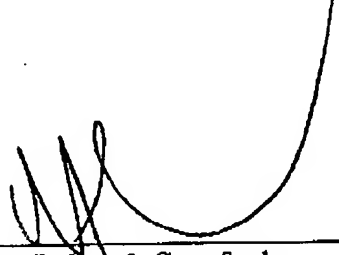
App. Serial No. 10/527,775
Docket No.: NL020886

In view of the remarks above, Applicant believes that each of the rejections has been overcome and the application is in condition for allowance. Should there be any remaining issues that could be readily addressed over the telephone, the Examiner is asked to contact the agent overseeing the application file, Peter Zawilski, of NXP Corporation at (408) 474-9063.

Please direct all correspondence to:

Corporate Patent Counsel
NXP Intellectual Property & Standards
1109 McKay Drive; Mail Stop SJ41
San Jose, CA 95131

CUSTOMER NO. 65913

By: 
Name: Robert J. Crawford
Reg. No.: 32,122
(NXPS.203PA)

WO 2004/027990

Annotated Sheet

Rec'd PCT/PTO

10/527775

14 MAR 2005

PCT/IB2003/003422

2/3

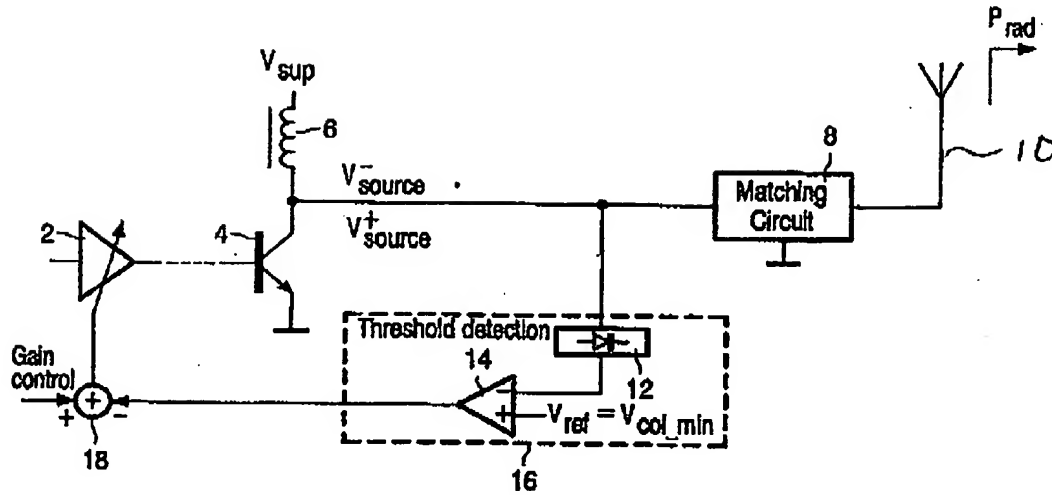


FIG. 4

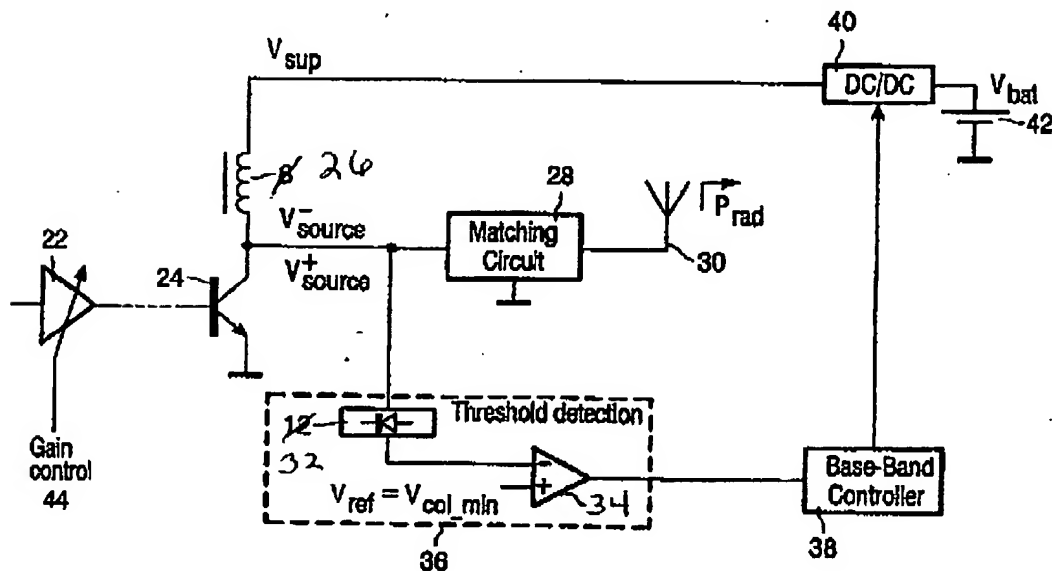


FIG. 5

WO 2004/027990

Annotated Sheet

10/527775
Rec'd PST/PTO 14 MAR 2005
PST/LB2003/003422

3/3

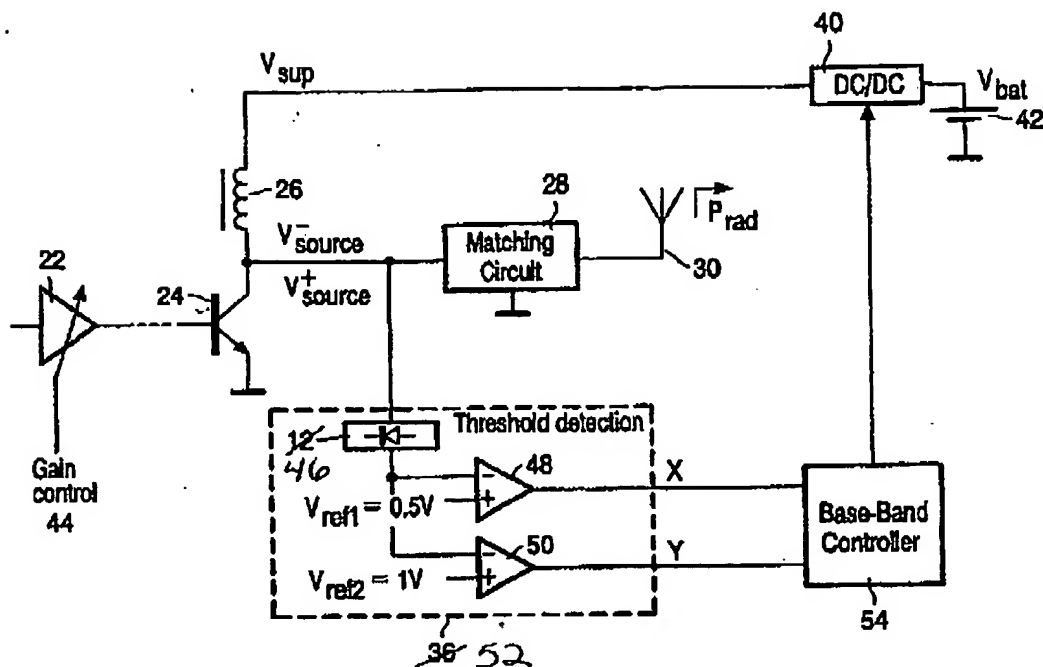


FIG. 6

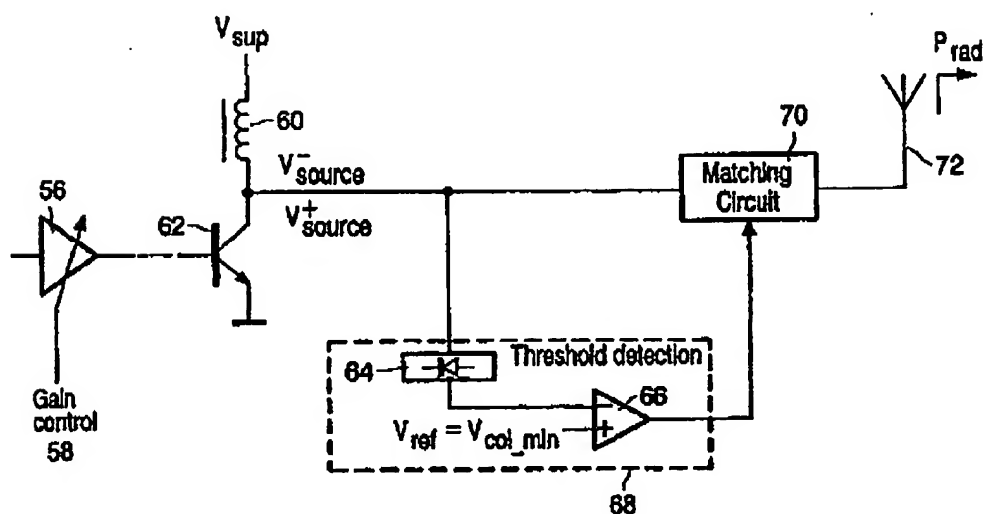


FIG. 7